

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	("6372643").PN.	US-PGPUB; USPAT	OR	OFF	2005/01/18 13:12
L2	1196	(in adj situ) same (depositing or deposit or deposition)	US-PGPUB; USPAT	OR	ON	2005/01/18 13:48
L3	20	(in adj situ) same (depositing or deposit or deposition) same TiN	US-PGPUB; USPAT	OR	ON	2005/01/18 13:48
L4	6	3 and @ad<"19980407"	US-PGPUB; USPAT	OR	ON	2005/01/18 13:49
L5	515	2 and @ad<"19980407"	US-PGPUB; USPAT	OR	ON	2005/01/18 13:49
L6	74	5 and silicide	US-PGPUB; USPAT	OR	ON	2005/01/18 13:49

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	195	((in adj situ) same (depositing or deposition or deposit)) and silicide	US-PGPUB; USPAT	OR	ON	2005/01/18 11:28
L2	74	1 and @ad<"19980407"	US-PGPUB; USPAT	OR	ON	2005/01/18 11:30
L3	6	((in adj situ) same (depositing or deposition or deposit)) and silicide	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/18 10:46
L4	61	((in adj situ) same (depositing or deposition or deposit)) same (selective or selectively)	US-PGPUB; USPAT	OR	ON	2005/01/18 11:31
L5	28	4 and @ad<"19980407"	US-PGPUB; USPAT	OR	ON	2005/01/18 11:26
L6	6	5 and silicide	US-PGPUB; USPAT	OR	ON	2005/01/18 11:31
L7	5	((in adj situ) same (depositing or deposition or deposit)) same (selective or selectively)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/18 11:28
L8	1	7 and silicide	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/01/18 11:28
L9	2116	438/642-644,648,652,655,674-675,682.ccls. and silicide	US-PGPUB; USPAT	OR	ON	2005/01/18 11:30
L10	905	9 and @ad<"19980407"	US-PGPUB; USPAT	OR	ON	2005/01/18 11:30
L11	582	10 and ((in adj situ) or (selective or selectively))	US-PGPUB; USPAT	OR	ON	2005/01/18 11:31
L12	581	11 not 4	US-PGPUB; USPAT	OR	ON	2005/01/18 11:31

US-PAT-NO: 5063175

DOCUMENT-IDENTIFIER: US 5063175 A

TITLE: Method for manufacturing a planar electrical interconnection utilizing isotropic deposition of conductive material

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Brief Summary Text - BSTX (14):

Smith, "CVD Tungsten Contact Plugs by In Situ Deposition and Etchback," Procs. 2nd Int'l IEEE VLSI Multilev. Intercon. Conf., 25-26 June 1985, pp. 350-356, describes the use of non-selectively deposited tungsten for via filling. Smith discusses vias (including contact holes) but actually performed his studies on grooves (or trenches). FIGS. 2a-2c show his processing steps. Referring to FIG. 2a, Smith started with a monocrystalline silicon substrate 20 that adjoined a layer 21 of silicon dioxide having a planar upper surface. A groove 22 having nearly vertical sidewalls was etched through layer 21. The aspect ratio--i.e., groove depth divided by groove width--was slightly less than 1

Brief Summary Text - BSTX (15):

To promote adhesion while avoiding the selective deposition characteristic of tungsten, a thin layer 23 of tungsten silicide was deposited on the structure. A much thicker layer 24 of tungsten with a small percentage of silicon was deposited on layer 23. Both depositions were performed by LPCVD using a vapor consisting of WF.sub.6, H.sub.2, and SiH.sub.4 in which the ratio of tungsten to silicon in each of layers 23 and 24 was controlled by adjusting the WF.sub.6 flow rate. The upper surface of layer 24 was nearly planar as indicated in FIG. 2b. However, a void 25 occurred in layer 24 at the location of groove 22. I believe that void 25 was produced because the silane (SiH.sub.4) caused the hydrogen to reduce the tungsten hexafluoride in the vapor area away from the deposition surfaces. The tungsten thereby accumulated at a lower rate in the more highly shadowed areas in groove 22.

US-PAT-NO: 6699530

DOCUMENT-IDENTIFIER: US 6699530 B2

\*\*See image for Certificate of Correction\*\*

TITLE: Method for constructing a film on a semiconductor wafer

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Brief Summary Text - BSTX (21):

In manufacturing an integrated circuit, it is desirable to perform successive steps of the manufacturing process, such as deposition and post-deposition processing, in the same chamber ("in-situ"). In-situ operations reduce the amount of contamination that a wafer is exposed to by decreasing the number of times that the wafer is required to be transferred between different pieces of manufacturing equipment. In-situ operations also lead to a reduction in the number of expensive pieces of manufacturing equipment that an integrated circuit manufacturer must purchase and maintain.